Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims

1.   (Canceled)

2.   (Currently Amended) A method of recovering information from a received signal comprising:

receiving a carrier signal modulated with ~~an~~ the information ~~signal~~;

downconverting the carrier signal using a first fixed frequency oscillator to generate ~~at least one~~ a downconverted signal; and

processing, using a digital integrated circuit, the downconverted signal to generate an output signal representing the information, the processing including:

sampling the ~~at least one~~ downconverted signal using a second fixed frequency oscillator to generate ~~at least one~~ a digital signal; ~~and processing the at least one digital signal to generate an output signal representative of the information signal,~~

regulating by a first digital feedback loop a frequency at which the output signal is generated, the first feedback loop carrying out processes of complex multiplication, variable interpolation, carrier recovery and digital frequency synthesizing to generate multiplying signals for the complex multipliplication, and

regulating, by a second digital feedback loop, a sampling time associated with the output signal, the second digital feedback loop carrying out processes of variable interpolation, and a symbol recovery, the processes of carrier recovery and symbol recovery both receiving signals resulting from variable interpolation.

3.   (Currently Amended) The method of claim 2 wherein the ~~at least one~~ downconverted signal is ~~at least one~~ a̲ baseband signal.

4.   (Currently Amended) The method of claim 2 wherein the ~~at least one~~ downconverted signal is an IF signal.

5.   (Currently Amended) The method of. claim 2 wherein the ~~at least one~~ downconverted signal comprises in-phase and quadrature ~~signals~~ components̲.

6.   (Cancelled)

7.   (Cancelled).

8.   (Cancelled)

9.   (Cancelled)

10.   (Cancelled)

11.   (Cancelled)

12.   (Currently Amended) A method of recovering information from a received signal comprising:

     receiving a carrier signal modulated with ~~an~~ information ~~signal~~;

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processing, using a digital integrated circuit, the modulated carrier signal to generate

an output signal representing the information, the processing including:

subsampling the carrier signal using a fixed frequency oscillator to generate at

least one digital IF signal; ~~and processing the at least one digital IF signal to generate an~~

~~output signal representative of the information signal~~

regulating by a first digital feedback loop a frequency at which the output

signal is generated, the first feedback loop carrying out processes of complex multiplication,

variable interpolation, carrier recovery and digital frequency synthesizing to generate

multiplying signals for the complex multipliplication, and

regulating, by a second digital feedback loop, a sampling time associated with

the output signal, the second digital feedback loop carrying out processes of variable

interpolation, and a symbol recovery, the processes of carrier recovery and symbol recovery

both receiving signals resulting from variable interpolation.

13.   (Cancelled).

14.   (Cancelled).

15.   (Cancelled).

16.   (Cancelled).

17.   (Currently Amended) A method of recovering information from a received

signal modulated with that information, comprising:

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receiving a signal modulated with an information signal;

~~sampling the received signal using a first fixed frequency oscillator to generate at least one digital signal;~~

~~complex multiplying the at least one digital signal with at least one signal to generate at least one multiplied signal; and~~

~~processing the at least one multiplied signal to generate an output signal representative of the information signal;~~

multiplying the received signal using signals derived from a first fixed oscillator to generate a downconverted signal having in-phase and quadrature components;

filtering the downconverted signal;

processing, using a digital integrated circuit, the downconverted signal to generate an output signal representing the information, the processing including:

sampling the in-phase and quadrature components of the downconverted signal using a second fixed frequency oscillator to generate a digital signal having in-phase and quadrature components;

regulating by a first digital feedback loop a frequency at which the output signal is generated, the first feedback loop carrying out processes of complex multiplication, variable interpolation, carrier recovery and digital frequency synthesizing to generate multiplying signals for the complex multipliplication, and

regulating, by a second digital feedback loop, a sampling time associated with the output signal, the second digital feedback loop carrying out processes of variable interpolation, and a symbol recovery, the processes of carrier recovery and symbol recovery both receiving signals resulting from variable interpolation.

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18.   (Currently Amended). The method of claim 17 wherein the ~~processing comprises performing variable interpolation~~ complex multiplying process multiplies the in-phase and quadrature components of the digital signal with signals generated by the digital frequency synthesizing.

19.   (Cancelled).

20.   (Cancelled).

21.   (Cancelled).

22.   (Currently Amended) The method of claim ~~21~~ 17 wherein the ~~at least one downconverted signal~~ quatrature information signals comprises at least one baseband signal.

23.   (Currently Amended) The method of claim 17 wherein the ~~at least one digital signal~~ quatrature information signals comprises at least one IF signal.

Cancel claims 24-38